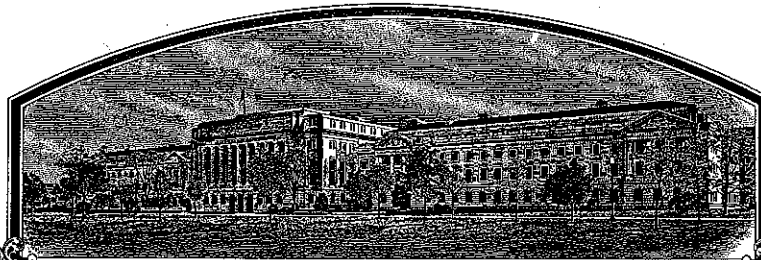


No.

200500048



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:
Florida Agricultural Experiment Station (FAES) University
of Georgia Research Foundation, Inc. (UGARF)

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

RYE

'AGS 104'

*In Testimony Whereof, I have hereunto set my hand
and caused the seal of the Plant Variety
Protection Office to be affixed at the City of
Washington, D.C. this fifth day of February, in
the year two thousand and eight.*

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service


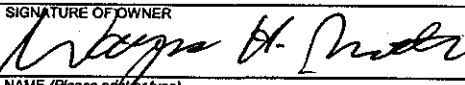
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Florida Agricultural Experiment Station & University of Georgia <i>Research Foundation</i>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME FLP97P20- FLPL97P20		3. VARIETY NAME AGS 104	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Office for Dean of Research University of Florida P.O. Box 10200 Gainesville, Florida 32611-0200		5. TELEPHONE (include area code) (352) 392-1784		FOR OFFICIAL USE ONLY PVPO NUMBER 200500048 FILING DATE DECEMBER 27, 2004	
		6. FAX (include area code) (352) 392-4965			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Experiment Station & Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION NA		9. DATE OF INCORPORATION	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Dr. Ronald D. Barnett North Florida Research and Education Center 155 Research Road Quincy, Florida 32351-5684				FILING AND EXAMINATION FEES: \$ 3,652.00 DATE 12/27/04 CERTIFICATION FEE: \$ 768.00 DATE 11/6/07	
11. TELEPHONE (include area code) (850) 875-7118		12. FAX (include area code) (850) 875-7188		13. E-MAIL rbarnett@mail.ifas.ufl.edu	
14. CROP KIND (Common Name) Rye		16. FAMILY NAME (Botanical) Gramineae		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Secale cereale L.		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
SIGNATURE OF OWNER 		SIGNATURE OF OWNER 			
NAME (Please print or type) Ronald D. Barnett		NAME (Please print or type) Wayne H. Smith			
CAPACITY OR TITLE Professor Agronomy		DATE 12-20-04		CAPACITY OR TITLE Int. Dean for Research	
				DATE 12/17/04	

(See reverse for instructions and information collection burden statement)

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

First invoiced dated December 31, 2003

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5984 (voice and TDD). USDA is an equal opportunity provider and employer.

200500048

Question 23 - Date of release, sale and/or marketing:

In December of 2003, Florida Foundation Seed Producers invoiced AgSouth Genetics for the foundation seed stock that they picked up. This seed was used by AgSouth to plant to increase seed stock to registered seed. The foundation stock picked up was only for the seed increase.

Name of owner

Ownership should be listed as Florida Agricultural Experiment Station and University of Georgia Research Foundation. We apologize for the inconsistency of the name (University of Georgia) but sometimes we abbreviate and then some forms do not allow enough spaces

Temporary Designation

Exhibit A and Exhibit D are correct. It was a typing error in the application. The application should have read FLPL97P20.

Exhibit A

Origin and Breeding History of AGS 104

This is a rye cultivar developed by the University of Florida and the University of Georgia with the University of Florida being the lead institution. It was approved for released in 2003. Rye breeding is difficult and especially so when you have to depend on forage data to measure progress. When you study the past four years of forage data it is easy to see that we have a difficult time beating the Noble Foundation ryes for total season production. Neither Wrens 96 nor Wrens Abruzzi will beat them in total season forage production. But where these two older cultivars excel is in early season forage production. Forage production is much more important to our livestock producers in December, January, and February than it is in March and April. Usually by April our summer grasses are beginning to grow and furnish grazing for livestock.

This rye was developed from a recurrent selection program where we plant 2,000 plants in isolated spaced planted nurseries. We go through the populations eliminating undesirable plants at least four times each growing season and only the best 50 or so plants are harvested from each population to bulk to grow for the next cycle of selection. We eliminate plants based on poor forage growth, disease susceptible, and lack of vigor. And select those plants that are high tillering, excellent forage producers, disease resistant, proper maturity, and good seed producers.

The AGS 104 (tested experimentally as: FLPL97P20) originated from an equal mixture of 5 strain crosses that were made in 1996 at Griffin, GA: Strain 1 = Bates, WALC7, & Florida 401; Strain 2 = Maton, WALC7, & Florida 401; Strain 3 = Oklon, WALC7, & Florida 401; Strain 4 = NF 73, WALC7, & Florida 401; Strain 5 = BR1 (BR 1 was a cultivar released by AC Embrapa and was released in Brazil), WALC7, & Florida 401. These were grown in bulk at Plains, GA in 1997. This mixture was then put through 4 cycles of selection at Quincy, FL 1998-2001. Bates, Maton, Oklon, and NF 73 all came from the Noble Foundation. The BR1 is a rye from Brazil. The WALC7 is a selection developed from Wrens Abruzzi that has been released as Wrens 96. The same selection criteria of good forage production, disease resistance and good seed yield was applied in making the plant selections to advance each cycle.

This rye line has been entered into a number of forage trials and performs very well particularly for early season forage productions and it will work very well in blends with ryegrass for long season forage production. In appearance this line most closely resembles Wrens 96. It is slightly earlier than Wrens 96 in maturity, and slightly shorter height. It has very good leaf rust resistance. AGS 104 has been observed to be uniform and stable across the last four years (2001-2004) as possible for a cross-pollinated crop, no off types or variants have been observed. AGS 104 has been released exclusively to AGSouth Genetics for marketing.

Exhibit B
Statement of Distinctness of AGS 104

AGS 104 is a novel and distinct variety that is most similar in appearance to Wrens 96. AGS 104 is about 7 days earlier in heading than Wrens 96 and is about 6 inches shorter in plant height than Wrens 96. Because of the variability inherent in both cultivars this is difficult to establish but some data is given below.

<u>Cultivar</u>	<u>Plant ht in inches</u>	<u>Heading Date</u>
Tifton, GA 2003		
AGS 104	60	3/14
Wrens 96	67	3/29
Griffin, GA 2003		
AGS 104	68	3/24
Wrens 96	78	3/29
Tifton, GA 2004		
AGS 104	74	3/12
Wrens 96	74	3/17
Griffin, GA 2004		
AGS 104	70	3/22
Wrens 96	77	3/26

REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved OMB NO 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
RYE (*Secale cereale* L.)

NAME OF APPLICANT (S) TEMPORARY OR EXPERIMENTAL DESIGNATION VARIETY NAME
Florida Agricultural Exp. Station FLPL97P20
& University of GA. Research Found., Inc. AGS 104

ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country)

1022 McCarty Hall
P.O. Box 110200
Gainesville, FL 32611-0200

FOR OFFICIAL USE ONLY

PVPO NUMBER

200500048

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the spaces below. Place a zero in the first space (e.g. 09 or 099) when number is either 99 or less or 9 or less, respectively. Characteristics described, including numerical measurements should represent those that are typical for the variety. All questions need not be answered; however, the more complete the information given the more adequate the variety will be identified.

1. PLOIDY

1 1 = Diploid (2n = 14) 2 = Tetraploid (2n = 28) 3 = Other (Specify) _____

2. ADAPTATION

2 1 = North 2 = South

3. GROWTH HABIT

2 1 = Spring 2 = Intermediate 3 = Winter

1 Photoperiod: 1 = Insensitive 2 = Sensitive

2 Juvenile Plant Growth: 1 = Erect 2 = Intermediate 3 = Prostrate

4. EAR EMERGENCE

____ Days Earlier Than

Emergence Same As

0 6 Days Later Than

5

1 = Von Lochow
4 = Rymin
7 = Gator

2 = Frontier
5 = Florida Black

3 = Cougar
6 = Weser

5. MATURITY

2 1 = Very Early 2 = Early 3 = Mid-Season 4 = Late 5 = Very Late

____ Days Earlier Than

Maturity Same As

0 5 Days Later Than

5

1 = Von Lochow
4 = Rymin
7 = Gator

2 = Frontier
5 = Florida Black

3 = Cougar
6 = Weser

6. HEIGHT

1 7 8 cm High (at Maturity) 5
 _____ cm Shorter Than
 Height Same As 5
 _____ cm Taller Than

1 = Dwarf
4 = Mid-Tall

2 = Semi-Dwarf
5 = Tall

3 = Short

1 = Von Lochow
4 = Rymin
7 = Gator

2 = Frontier
5 = Florida Black

3 = Cougar
6 = Weser

7. STEM

4 5 mm Stem Diameter (4 inches above ground) 2 Nodes: 1 = Solid 2 = Intermediate 3 = Hollow

_____ Neck Hairiness: 1 = Glabrous 2 = Slightly Hairy 3 = Moderately Hairy 4 = Densely Hairy variable for this trait

1 Anthocyanin in Uppermost Node: 1 = Absent 2 = Present

3 6 0 cm Internode Length (Between flag leaf and leaf below) variable

_____ More Tillers Than
 _____ Same Number of Tillers As 2
 _____ Fewer Tillers Than

1 = Von Lochow
4 = Tetra Petkus

2 = Weser

3 = Frontier

Resistance to Lodging: 1 = Good (Seldom lodged) 2 = Fair (Often lodged) 3 = Poor (Usually lodged)

8. LEAVES

2 0 5 cm Leaf Length (1st leaf below flag leaf) 8 5 mm Leaf Width (1st leaf below flag leaf)

2 Flag Leaf: 1 = Not Twisted 2 = Twisted 5 5 No. Leaves Originating from Nodes Above Ground

2 Waxy Bloom On Leaf (at boot): 1 = Absent 2 = Slightly Waxy 3 = Waxy

_____ Upper Leaf Surface (at boot): 1 = Glabrous 2 = Lightly Spinous 3 = Pubescent

1 Leaf Color (at boot): 1 = Dark Green (Frontier, Weser) 2 = Light Green (Florida Black) 3 = Other (Specify) _____

2 Main Stem Leaf Habit (during tillering): 1 = Upright 2 = Recurved 3 = Drooping

2 Main Stem Leaf Habit (at boot): 1 = Upright 2 = Recurved 3 = Drooping

_____ Leaf Sheath (at boot): 1 = Glabrous 2 = Lightly Spinous 3 = Pubescent

1 Anthocyanin in Auricles: 1 = Absent 2 = Present

9. HEAD

2 Density: 1 = Lax (Frontier) 2 = Mid-Dense (Tetra Petkus) 3 = Dense (Cougar)

2 Attitude: 1 = Erect 2 = Slightly Curved 3 = Inclined

1 Shape: 1 = Fusiform (Tapering) 2 = Parallel 3 = Oblong 4 = Elliptical 5 = Clavate 6 = Other (Specify) _____

1 Waxy Bloom: 1 = Absent 2 = Slightly Waxy 3 = Waxy

1 Anthocyanin: 1 = Absent 2 = Present

1 Resistance to Shattering: 1 = Good 2 = Fair 3 = Poor

3 Head Length: 1 = Long 2 = Mid-Long to Long 3 = Mid-Long 4 = Short to Mid-Long 5 = Short

1 2 4 cm Head Length (Excluding Awns) 0 4 0 cm Awn Length

1 0 mm Head Width

1 Anthocyanin in Awns: 1 = Absent 2 = Slightly Pigmented 3 = Strongly Pigmented

10. COLEOPTILE COLOR

2 1 = Green 2 = Red (Purple) 3 = Mixed

11. SEED

Color (Total = 100%)

0 5. 0 % Black 1 8. 0 % Gray 1 4. 2 % Blue 2 4. 5 % Blue-Green
 _____ % Green _____ % Olive-Green _____ % Yellow _____ % Tan
5 2. 5 % Brown _____ % Other (Specify) _____ _____ % Other (Specify) _____

____ Aleurone Color: 1 = Colorless (White) 2 = Blue variable

3 Endosperm: 1 = Light 2 = Dark 3 = Mixed

1 Shape: 1 = Elliptical 2 = Fusiform 3 = Other (Specify) _____

1 Size: 1 = Small (Caribou) 2 = Medium (Puma) 3 = Large (Rymin) 4 = Very Large (Tetra Petkus)

2. 5 mm Wide 0 7. 2 mm Long 1 Surface: 1 = Smooth 2 = Other (Specify) _____

12. DISEASE AND INSECT RESISTANCE (0 = Not Tested 1 = Susceptible 2 = Resistant. Indicate as completely as possible including species and races where known)

	Comments
<u>2</u> Leaf rust – <i>Puccinia recondita</i>	
<u>0</u> Stem rust – <i>P. graminis secalis</i>	
<u>0</u> Stripe rust – <i>P. glumarum</i>	
<u>2</u> Powdery mildew – <i>Erysiphe graminis secalis</i>	
<u>0</u> Anthracnose – <i>Colletotrichum graminicola</i>	
<u>0</u> Scald – <i>Rhynchosporium secalis</i>	
<u>0</u> Ergot – <i>Claviceps purpurea</i>	
____ Other Disease _____	
____ Other Disease _____	
____ Insect _____	
____ Insect _____	

13. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THE APPLICATOIN VARIETY FOR THE FOLLOWING CHARACTERS:

Character	Variety	Character	Variety
Growth Habit	wrens 96	Tillering	wrens 96
Leaf Width	wrens 96	Ear Emergence	wrens 96
Leaf Length	wrens 96	Area of Adaptation	wrens 96
Leaf Color	wrens 96	Winter Hardiness	wrens 96
Leaf Carriage	wrens 96	Drought Resistance	wrens 96
Seed Shape	wrens 96	Lodging	wrens 96
Seed Size	wrens 96	Shattering	wrens 96

14. ADDITIONAL DESCRIPTION (Use additional sheets as required):

Describe all characteristics that cannot be adequately described in the form above. Comparative varieties should be used where appropriate, such as for disease. Append all comparative trial and evaluation data.

Since rye is a cross-pollinated crop quite often there is considerable variation for a number of traits within a population. This variety shows a lot of variability for many traits. We were primarily interested in it vegetative growth and thus its forage production potential which is enhanced by this inherent

Breeders' Description – AGS 104

A New Rye Cultivar For Winter Forage Production

Participating scientists: Florida - Ronald D. Barnett, Ann R. Blount, and Paul Pfahler;
Georgia - Jerry Johnson, Barry Cunfer, G. David Buntin, and Dan Bland

This is a new cultivar developed by the University of Florida and the University of Georgia with the University of Florida being the lead institution.

Rye breeding is difficult and especially so when you have to depend on forage data to measure progress. When you study the past four years of forage data it is easy to see that we have a difficult time beating the Noble Foundation ryes for total season production. Neither Wrens 96 nor Wrens Abruzzi will beat them in total season forage production. But where these two older cultivars excel is in early season forage production. Forage production is much more important to our livestock producers in December, January, and February than it is in March and April. Usually by April our summer grasses are beginning to grow and furnish grazing for livestock.

This rye was developed from a recurrent selection program where we plant 2,000 plants in isolated spaced planted nurseries. We go through the populations eliminating undesirable plants at least four times each growing season and only the best 50 or so plants are harvested from each population to bulk to grow for the next cycle of selection. We eliminate plants based on poor forage growth, disease susceptible, and lack of vigor. And select those plants that are high tillering, excellent forage producers, disease resistant, proper maturity, and good seed producers.

The AGS 104 (tested experimentally as: FLPL97P20) originated from an equal mixture of 5 strain crosses that were made in 1996 at Griffin, GA: Strain 1 = Bates, WALC7, & Florida 401; Strain 2 = Maton, WALC7, & Florida 401; Strain 3 = Oklon, WALC7, & Florida 401; Strain 4 = NF 73, WALC7, & Florida 401; Strain 5 = BR1, WALC7, & Florida 401. These were grown in bulk at Plains, GA in 1997. This mixture was then put through 4 cycles of selection at Quincy, FL 1998-2001. Bates, Maton, Oklon, and NF 73 all came from the Noble Foundation. The BR1 is a rye from Brazil. The WALC7 is a selection developed from Wrens Abruzzi that has been released as Wrens 96. The same selection criteria of good forage production, disease resistance and good seed yield was applied in making the plant selections to advance each cycle.

This rye line has been entered into a number of forage trials and performs very well particularly for early season forage productions and it will work very well in blends with ryegrass for long season forage production. In appearance this line most closely resembles Wrens 96. It is slightly earlier than Wrens 96 in maturity, and slightly shorter in height. It has very good leaf rust resistance. Plant variety protection will be applied for and a royalty earning stream will be developed. AGS 104 has been released exclusively to AGSouth Genetics for marketing.

FLPL97P20 & FLNF94 Sel

Two New Rye Cultivars For Winter Forage Production

Participating scientists: Florida - Ronald D. Barnett, Ann R. Blount, and Paul Pfahler;
Georgia - Jerry Johnson, Barry Cunfer, G. David Buntin, and Dan Bland

These are new cultivars developed by the University of Florida and the University of Georgia with the University of Florida being the lead institution.

Rye breeding is difficult and especially so when you have to depend on forage data to measure progress. Tables 1-13 are the results of the last four years of testing in Florida and Georgia. Summary tables are presented in Tables 14-15. Based on this data we increased FLPL97P20 and FLNF94 Sel rye lines and have several acres of each growing this year. We should have 50-100 bushels of each available during the summer of 2003.

When you study the past four years of forage data it is easy to see that we have a difficult time beating the Noble Foundation ryes for total season production (Table 14). Neither Wrens 96 nor Wrens Abruzzi will beat them in total season forage production. But where these two lines shine is in early season forage production (Table 15). Forage production is much more important to our producers in December, January, and February than it is in March and April. Usually by April our summer grasses are beginning to grow and furnish grazing for livestock.

These ryes were developed from a recurrent selection program where we plant 2,000 plants in isolated spaced planted nurseries. We go through the populations eliminating undesirable plants at least four times each growing season and only the best 50 or so plants are harvested from each population to bulk to grow for the next cycle of selection. We eliminate plants based on poor forage growth, disease susceptible, and lack of vigor. And select those plants that are high tillering, excellent forage producers, disease resistant, proper maturity, and good seed producers.

The FLNF94 Sel originated from the breeding line NF 94 from The Noble Foundation of Ardmore, OK. It was put in the selection program in 1996 and 5 cycles of selection have been carried out on this population. The original population contained a high percentage of leaf rust susceptible and later maturing types. The rust susceptible and higher vernalization types were reduced in the population to make it better adapted to the Southeast.

The FLPL97P20 originated from an equal mixture of 5 strain crosses that were made in 1996 at Griffin, GA: Strain 1 = Bates, WALC7, & Florida 401; Strain 2 = Maton, WALC7, & Florida 401; Strain 3 = Oklon, WALC7, & Florida 401; Strain 4 = NF 73, WALC7, & Florida 401; Strain 5 = BR1, WALC7, & Florida 401. These were grown in bulk at Plains, GA in 1997. This mixture was then put through 4 cycles of selection at Quincy, FL 1998-2001. Bates, Maton, Oklon, and NF 73 all came from the Noble Foundation. The BR1 is a rye from Brazil. The WALC7 is a selection developed from Wrens Abruzzi that has been released as Wrens 96. The same selection criteria of good forage production, disease resistance

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and good seed yield was applied in making the plant selections to advance each cycle.

These two rye lines have been entered into a number of forage trials and considerable more information will be available during the summer of 2003. Even though there will not be a large supply of seed available this year there will be enough to share with a potential licensee for production this fall.

Plant Variety Protection will be applied for and a royalty earning stream will be developed. We are planning to release each line exclusively to a single seed company. Names will be selected in conjunction with the selected company or companies.

**Table 1. Tifton, Georgia:
Rye Forage Preliminary Performance, 2001-2002**

Dry Matter Yield										
Brand-Variety	Harvest Date								Season Totals	
	12-05-01	12-17-01	1-23-02	Total	2-Yr Avg	2-11-02	3-15-02	4-02-02	2002	2-Yr Avg
				First	First 3					
				3 Harv.	Harv.					
lb/acre										
Noble NF1	1660	728	1282	3671	.	967	2907	1426	8971	.
FLGR97P4	1897	501	985	3383	.	652	2124	860	7019	.
Wrens Abruzzi	1561	622	1155	3338	3622	887	2638	959	7821	6822
Pennington SPIRye	1700	500	1034	3233	3599	673	2310	841	7056	7013
Seed Resource XR9908	1552	624	989	3165	3608	798	2421	1460	7844	7400
Seed Resource XR9907	1465	549	1113	3127	3734	839	2336	1253	7554	7364
Gurley CGI01	1468	626	1022	3116	.	872	2176	1547	7709	.
FLBates Sel.	1623	541	951	3114	.	722	2162	761	6759	.
Bates	1400	615	1099	3113	3567	929	2294	1414	7749	7152
Seed Resource XR9909	1514	599	999	3112	.	772	2215	1206	7304	.
Oklon	1630	542	919	3091	3458	747	2112	1370	7319	7188
Gainey AFC20-20 Early	1545	536	1007	3088	.	703	2356	1111	7257	.
FLPL97P20	1631	517	920	3068	.	635	2130	782	6615	.
Wintermore	1454	638	975	3066	.	908	2357	1688	8020	.
Wrens 96	1304	565	1159	3028	3471	848	2413	1085	7373	6583
Gurley CGI88	1404	602	999	3005	.	881	2480	1751	8117	.
Kelly Grazer II	1459	570	971	2999	3344	641	1992	1082	6714	6922
Elbon	1312	639	1011	2962	3365	917	2392	1845	8116	7807
Wintergrazer 70	1452	635	862	2950	3276	683	1904	1501	7037	6793
FLOklon Sel.	1397	545	998	2940	.	816	2242	768	6765	.
Hancock	1447	558	934	2939	3382	763	1934	1928	7563	7603
Gainey AFC20-20	1479	518	888	2884	.	650	2044	971	6549	.
Noble NF65	1305	516	1043	2864	.	785	2164	1197	7009	.
Kier	1308	551	996	2855	3341	817	1936	1971	7579	7583
FLNF94 Sel.	1336	523	978	2836	.	814	2412	922	6984	.
Seed Resource XR9903	1164	577	1077	2818	3402	867	2329	1290	7303	7017
Early Grazer	1326	519	968	2813	3294	775	2469	1020	7077	6795
Gurley CGI90	1365	471	895	2730	.	708	2118	1671	7228	.
Seed Resource XB9920	1213	522	514	2249	.	494	935	1171	4847	.
Average	1461	567	991	3019 ¹	3462	778	2217	1271	7285 ²	7146
LSD at 10% Level	271	111	177	426	349	142	420	270	1076	N.S. ³
Std. Err. of Entry Mean	115	47	76	181	148	60	179	115	458	283

1. C.V. = 12.1%, and df for EMS = 78.

2. C.V. = 11.2%, and df for EMS = 78.

3. The F-test indicated no statistical difference at the $\alpha = 0.10$ probability level; therefore a LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD ($P = 0.10$).

Planted: October 23, 2001.

Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Tifton loamy sand.

Soil Test: P = High, K = Medium, and pH = 5.7.

Fertilization: Preplant: 50 lb N, 0 lb P₂O₅, and 0 lb K₂O/acre.

Topdress: 40 lb N/acre after 1st, 2nd, 3rd, 4th, and 5th harvests.

Management: Subsoiled and rototilled; Telone II used for nematode control.

Previous Crop: Summer annual forages.

Test conducted by A. E. Coy, M. D. Pippin, T. L. Hancock, and R. E. Brooke.

**Table 2. Plains, Georgia:
Rye Forage Preliminary Performance, 2001-2002**

Brand-Variety	Dry Matter Yield								Season Totals	
	Harvest Date				2-Yr Avg					
	12-20-01	1-30-02	2-22-02	Total	2-Yr Avg	3-20-02	4-16-02			
				First	First 3					
	3 Harv.	Harv.								
lb/acre										
Pennington SPIRye	1709	995	915	3618	3860	1155	581	5353	5984	
Seed Resource XR9907	1474	864	1082	3419	3999	1735	951	6105	6406	
Seed Resource XR9909	1402	1009	929	3340	.	1612	908	5859	.	
Noble NF1	1481	835	987	3303	.	1481	770	5554	.	
Seed Resource XR9908	1394	900	995	3289	3768	1728	973	5989	6349	
FLGR97P4	1583	777	900	3259	.	1111	450	4820	.	
Bates	1300	900	1031	3230	3837	1750	915	5895	6316	
Early Grazer	1394	857	966	3216	3597	1496	835	5546	5891	
Wintergrazer 70	1322	893	987	3202	3503	1713	1525	6439	6320	
Oklon	1307	987	900	3194	3739	1815	995	6004	6283	
Gurley CGI01	1474	849	842	3166	.	1743	1300	6208	.	
Wrens Abruzzi	1256	893	1002	3150	3662	1184	508	4842	5536	
Wintermore	1365	828	951	3143	.	1961	1227	6331	.	
FLPL97P20	1481	907	741	3129	.	1206	494	4828	.	
Hancock	1264	959	886	3108	3238	1322	1423	5852	5725	
Gurley CGI90	1358	835	893	3085	.	1706	1227	6019	.	
FLBates Sel.	1321	893	871	3085	.	1082	588	4755	.	
FLOklon Sel.	1278	871	929	3078	.	1147	697	4922	.	
Noble NF65	1169	922	958	3049	.	1641	777	5466	.	
FLNF94 Sel.	1242	900	900	3042	.	1438	370	4850	.	
Seed Resource XR9903	1021	973	1009	3003	3734	1670	922	5595	6137	
Elbon	1256	799	929	2984	3561	1917	1546	6447	6371	
Wrens 96	1126	849	936	2911	3666	1423	712	5046	5663	
Gurley CGI88	1256	748	864	2868	.	1750	1438	6055	.	
Seed Resource XB9920	1176	487	770	2432	.	1314	1888	5634	.	
Average	1336	869	927	3132 ¹	3680	1524	961	5616 ²	6082	
LSD at 10% Level	213	127	160	302	N.S. ³	201	240	388	N.S.	
Std. Err. of Entry Mean	90	54	68	128	87	86	102	164	157	

1. C.V. = 8.2%, and df for EMS = 72.

2. C.V. = 5.9%, and df for EMS = 72.

3. The F-test indicated no statistical difference at the alpha = 0.10 probability level; therefore a LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 19, 2001.

Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Greenville sandy clay loam.

Soil Test: P = Medium, K = High, and pH = 6.1.

Fertilization: Preplant: 60 lb N, 60 lb P₂O₅, and 30 lb K₂O/acre.

Topdress: 40 lb N/acre after 1st, 2nd, 3rd, and 4th harvests.

Management: Subsoiled and rototilled.

Previous Crop: Corn.

Test conducted by A. E. Coy, M. D. Pippin, T. L. Hancock, R. E. Brooke, and R. R. Pines.

**Table 3. Griffin, Georgia:
Rye Forage Preliminary Performance, 2001-2002**

Brand-Variety	Dry Matter Yield								
	Harvest Date								
	12-20-01	2-05-02	3-28-02	Total	2-Yr Avg	4-19-02	Season Totals		
				First	First 3		2002	2-Yr Avg	
				3 Harv.	Harv.				
lb/acre									
Elbon	1725	835	3657	6216	4479	2898	9114	7937	
Seed Resource XR9908	1544	1096	3198	5837	4017	1663	7500	6863	
Seed Resource XR9907	1543	1031	3216	5789	4507	1601	7390	7188	
Wintermore	1424	942	3401	5767	.	3115	8882	.	
Seed Resource XR9903	1621	1099	3006	5725	4345	1468	7193	6925	
FLNF94 Sel.	1505	1125	3051	5681	.	778	6459	.	
Oklon	1135	873	3629	5637	4308	1671	7308	7007	
Gainey AFC20-20	1397	1074	3080	5551	.	1291	6841	.	
Noble NF65	1448	1109	2989	5545	.	1314	6859	.	
Bates	1381	1106	2978	5465	4103	1996	7461	6952	
Noble NF1	1619	1140	2704	5462	.	1213	6676	.	
Early Grazer	1417	1135	2817	5368	4130	1248	6616	6402	
Pennington SPIRye	1173	806	3380	5359	4305	2271	7630	7172	
Gainey AFC20-20 Early	1496	988	2822	5306	.	1241	6546	.	
Seed Resource XR9909	1200	1071	3012	5283	.	1482	6765	.	
FLBates Sel.	1442	1350	2163	4955	.	862	5817	.	
FLGR97P4	1637	1128	2130	4895	.	1036	5930	.	
FLPL97P20	1528	1126	2209	4863	.	758	5620	.	
Wrens 96	1153	1139	2551	4842	4281	797	5639	5783	
Wintergrazer 70	1224	544	2976	4744	3430	2624	7368	6389	
Wrens Abruzzi	1302	1194	2239	4734	4060	1002	5737	5717	
FLOklon Sel.	1281	1093	2296	4670	.	890	5559	.	
Seed Resource XB9920	1028	380	2254	3662	.	5090	8751	.	
Hancock	1318	577	1293	3188	2604	4594	7782	6762	
Average	1397	998	2794	5189 ¹	4047	1787	6977 ²	6758	
LSD at 10% Level	337	159	341	459	N.S. ³	422	647	483	
Std. Err. of Entry Mean	143	67	144	195	146	193	274	204	

1. C.V. = 7.5%, and df for EMS = 69.

2. C.V. = 7.9%, and df for EMS = 69.

3. The F-test indicated no statistical difference at the alpha = 0.1 probability level; therefore an LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected

LSD (P = 0.10).

Planted: October 4, 2001.

Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Pacolet coarse sandy loam.

Soil Test: P = Medium, K = High, and pH = 6.1.

Fertilization: Preplant: 49 lb N, 98 lb P₂O₅, and 147 lb K₂O/acre.

Topdress: 50 lb N/acre after 1st, 2nd, and 3rd harvests.

Management: Chisel plowed, disked and rototilled; Harmony Extra used for weed control.

Previous Crop: Sorghum

Test conducted by P. A. Rose.

**Table 4. Marianna, Florida:
Rye Forage Preliminary Performance, 2001-2002**

Brand-Variety	Dry Matter Yield				Season Totals	
	Harvest Date			4-16-02	2002	
	2-11-02	3-14-02	Total		2002	2-Yr Avg
	lb/acre					
Elbon	1516	2068	3584	3772	7356	6154
Wintergrazer 70	1589	2180	3769	3276	7045	6141
Wintermore	1280	1974	3254	3422	6676	.
Seed Resource XR9907	1240	2412	3652	2927	6579	.
Bates	1624	2251	3875	2561	6436	5962
Oklon	1397	2109	3506	2752	6258	5538
FLPL97P20	2037	1960	3997	2221	6218	.
Seed Resource XR9908	1290	2200	3490	2699	6189	.
Seed Resource XR9909	1472	2186	3658	2442	6100	.
Early Grazer	1638	2555	4193	1898	6091	6062
Pennington SPIRye	1897	2265	4162	1857	6019	5836
Kelly Grazer II	2076	1581	3657	2289	5945	5586
FLNF94 Sel.	1795	2435	4230	1658	5888	.
Seed Resource XB9920	1292	1544	2836	3039	5875	.
Noble NF1	1552	2223	3775	2080	5854	.
Seed Resource XR9903	1061	2198	3259	2330	5589	.
Noble NF65	1232	2273	3505	2068	5572	.
Wrens 96	1527	2270	3797	1628	5425	5253
Hancock	1087	1549	2636	2788	5423	5456
FLBates Sel.	1502	2074	3576	1756	5332	.
FLGR97P4	2192	1419	3611	1646	5257	.
Wrens Abruzzi	1630	2178	3808	1387	5195	5036
FLOklon Sel.	1546	2181	3727	1464	5191	.
Average	1542	2091	3633	2346	5979 ¹	5702
LSD at 10% Level	350	287		518	709	N.S. ²
Std. Err. of Entry Mean	148	122		220	300	178

1. C.V. = 10.0%, and df for EMS = 66.

2. The F-test indicated no statistical difference at the alpha = 0.10 probability level; therefore a LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: November 16, 2001.
 Seeding Rate: 36 seed/foot in 7" rows.
 Soil Type: Dothan loamy fine sand.
 Soil Test: P = High, K = High, and pH = 6.3.
 Fertilization: Preplant: 40 lb N, 0 lb P₂O₅, and 0 lb K₂O/acre.
 Topdress: 50 lb N/acre after 1st and 2nd harvests.
 Management: Moldboard plowed and rototilled.
 Previous Crop: Peanuts.

Test conducted by J. Jones.

**Table 5. Tifton, Georgia:
Rye Forage Performance, 2000-2001**

Brand-Variety	Dry Matter Yield								
	Harvest Date								
	Total		2-Yr Avg						
	1-05-01	1-29-01	2-15-01	3 Harv.	First 3 Harv.	3-01-01	3-26-01	4-13-01	Season Totals
									2001 2-Yr Avg
	lb/acre								
FLBates Sel.	1880	1372	1096	4349	.	392	748	1038	6527
Seed Resource XR9907	1793	1605	944	4342	.	574	1147	1111	7174
Seed Resource XR9908	1532	1292	1227	4051	.	617	1263	1024	6955
Bates	1510	1365	1147	4022	4164	581	1060	893	6556 6825
FLGR97P4	1771	1264	980	4015	.	334	828	1031	6208
Seed Resource XR9903	1619	1176	1192	3987	.	596	1096	1053	6731
SPIRye	1503	1249	1213	3965	4128	632	1380	995	6970 7095
Wrens 96	1677	1285	951	3913	3971	349	676	857	5794 6175
Wrens Abruzzi	1721	1300	886	3906	4026	305	741	871	5822 6160
Seed Resource XR9917	1467	1147	1227	3841	.	806	1300	944	6889
Oklon	1626	1140	1060	3826	3964	690	1380	1162	7057 7201
Kier	1576	1271	980	3826	.	922	1554	1285	7587
Hancock	1757	1111	958	3826	3986	893	1706	1220	7644 7496
Early Grazer	1416	1212	1147	3775	3961	516	1067	1155	6513 6704
FLPL97P20	1575	1379	820	3775	.	276	712	966	5728
Elbon	1409	1082	1278	3768	3881	951	1641	1140	7499 7420
UGA 96RS1	1605	1147	994	3746	.	407	936	1213	6302
Seed Resource XR9909	1452	1118	1125	3695	.	704	1307	1053	6759
Kelly Grazer II	1445	1082	1162	3689	3816	755	1575	1111	7130 7231
FLNF94 Sel.	1230	1147	1249	3626	.	523	777	1096	6022
FLOklon Sel.	1452	1118	1046	3615	.	305	617	813	5350
Wintergrazer 70	1278	1176	1147	3602	3841	639	1227	1082	6550 6785
GA96P16M	1656	1075	806	3536	3685	298	675	893	5402 5881
Seed Resource XR9916	1336	1220	980	3536	.	828	1401	668	6432
Winter King	1307	1038	1147	3492	.	806	1481	1067	6846
GI-87	1263	936	1126	3325	3685	820	1445	1009	6600 6897
Maton	1212	796	1206	3213	3505	995	1416	1060	6684 6914
Walet	1343	900	820	3063	.	849	1525	1133	6570
Average	1538	1182	1031	3750 ¹	3893	578	1115	1045	6488 ² 6829
LSD at 10% Level	N.S. ³	267	195	508	295	93	197	200	692 368
Std. Err. of Entry Mean	150	114	83	216	170	40	84	85	295 237

1. C.V. = 11.5%, and df for EMS = 96.

2. C.V. = 9.1%, and df for EMS = 96.

3. The F-test indicated no statistical difference at the alpha = 0.1 probability level; therefore an LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 24, 2000.

Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Tifton loamy sand.

Soil Test: P = Medium, K = Medium, and pH = 7.2.

Fertilization: Preplant: 93 lb N, 50 lb P₂O₅, and 75 lb K₂O/acre.

Topdress: 50 lb N/acre after 1st, 2nd, 3rd, 4th, and 5th harvests.

Management: Moldboard plowed and rototilled; Diazon used for insect control.

Previous Crop: Soybean.

Test conducted by A. E. Coy and M. D. Pippin.

**Table 6. Plains, Georgia:
Rye Forage Performance, 2000-2001**

Brand-Variety	Dry Matter Yield							Season Totals	
	Harvest Date			2-Yr Avg					
	1-23-01	2-20-01	3-07-01	Total	2-Yr Avg	4-06-01	2001	2-Yr Avg	
				First	First 3				
				3 Harv.	Harv.				lb/acre
Seed Resource XR9909	1692	1721	1220	4632	.	2294	6926	.	
Seed Resource XR9907	1655	1849	1075	4579	.	2127	6706	.	
FLPL97P20	2244	1677	567	4487	.	1794	6280	.	
Seed Resource XR9903	1626	1721	1118	4465	.	2214	6679	.	
Bates	1583	1757	1104	4443	5178	2294	6737	6757	
FLNF94 Sel.	1764	1721	944	4428	.	2229	6657	.	
Wrens 96	1989	1794	639	4422	4739	1859	6281	6111	
FLGR97P4	2026	1692	574	4291	.	1982	6273	.	
Oklon	1416	1663	1206	4284	4830	2280	6563	6355	
GI-87	1358	1721	1198	4276	4924	2505	6781	6500	
Seed Resource XR9908	1285	1728	1234	4247	.	2461	6708	.	
FLBates Sel.	1866	1786	581	4233	.	2120	6353	.	
FLOklon Sel.	1684	1815	712	4211	.	2106	6316	.	
Wrens Abruzzi	1859	1757	559	4175	4503	2055	6229	5980	
UGA 96RS1	1851	1612	712	4175	.	2004	6179	.	
Elbon	951	1779	1409	4138	4854	2156	6294	6267	
SPIRye	1205	1808	1089	4102	4890	2514	6616	6459	
Seed Resource XR9916	900	1829	1264	3993	.	2236	6229	.	
Early Grazer	1278	1903	799	3979	4447	2258	6237	5947	
Winter King	806	1561	1481	3848	.	2418	6265	.	
GA96P16M	2026	1198	617	3841	4289	1880	5722	5760	
Wintergrazer 70	799	1822	1184	3805	4652	2396	6201	6289	
Seed Resource XR9917	697	1525	1409	3631	.	2287	5917	.	
Maton	507	1717	1380	3603	4591	2301	5904	6181	
Hancock	1205	980	1184	3369	.	2229	5598	.	
Average	1539	1642	941	4121 ¹	4718	2159	6280 ²	6237	
LSD at 10% Level	332	233	140	347	N.S. ³	218	345	N.S.	
Std. Err. of Entry Mean	141	99	60	148	185	93	206	131	

1. C.V. = 7.2%, and df for EMS = 87.

2. C.V. = 5.4%, and df for EMS = 87.

3. The F-test indicated no statistical difference at the alpha = 0.1 probability level; therefore an LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 25, 2000.

Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Greenville sandy clay loam.

Soil Test: P = Medium, K = High, and pH = 5.6.

Fertilization: Preplant: 50 lb N, 49 lb P₂O₅, and 49 lb K₂O/acre.

Topdress: 50 lb N/acre after 1st, 2nd, and 3rd harvests.

Management: Subsoiled and rototilled.

Previous Crop: Peanut.

Test conducted by A. E. Coy, M. D. Pippin, and R. R. Pines.

**Table 7. Griffin, Georgia:
Rye Forage Performance, 2000-2001**

Brand-Variety	Dry Matter Yield						Season Totals	
	Harvest Date			Total		4-10-01		
	12-12-00	2-05-01	3-06-01	Total First 3 Harv.	2-Yr Avg First 3 Harv.			
							2001	2-Yr Avg
-----lb/acre-----								
Wrens 96	604	971	2145	3720	4690	2208	5928	6717
UGA 96RS1	767	560	2187	3514	.	2909	6422	.
Wrens Abruzzi	880	916	1590	3385	4763	2312	5697	6865
FLPL97P20	854	945	1566	3365	.	2066	5431	.
FLOklon Sel.	948	805	1504	3257	.	2914	6170	.
SPIRye	624	306	2321	3252	4425	3464	6715	7302
FLGR97P4	1054	440	1741	3235	.	2483	5718	.
FLNF94 Sel.	446	525	2261	3232	.	2973	6205	.
Seed Resource XR9907	754	399	2071	3224	.	3763	6987	.
Seed Resource XR9917	505	322	2162	2988	.	3184	6172	.
Oklon	788	414	1778	2979	4218	3726	6705	7346
Seed Resource XR9903	671	573	1720	2964	.	3694	6658	.
Early Grazer	633	393	1866	2893	4507	3295	6187	7162
FLBates Sel.	511	747	1597	2856	.	2510	5366	.
Winter King	505	317	1958	2781	.	3831	6611	.
GI-87	748	338	1669	2754	4129	4172	6927	7732
Bates	474	508	1760	2742	4528	3701	6443	7512
Elbon	609	336	1797	2742	4083	4020	6761	7619
GA96P16M	570	809	1228	2607	4113	2682	5289	6338
Seed Resource XR9909	311	395	1879	2585	.	3701	6286	.
Seed Resource XR9916	240	350	1759	2349	.	3829	6178	.
Maton	463	235	1502	2200	3730	4117	6317	7337
Seed Resource XR9908	280	378	1539	2197	.	4030	6226	.
Wintergrazer 70	121	363	1631	2115	4217	3295	5410	7107
Hancock	754	250	1017	2020	3866	3722	5742	7286
Average	629	528	1678	2835 ¹	4272	3179	6014 ²	7193
LSD at 10% Level	414	269	348	504	N.S. ³	555	772	N.S.
Std. Err. of Entry Mean	176	115	148	214	244	236	328	277

1. C.V. = 15.1%, and df for EMS = 87.

2. C.V. = 10.9%, and df for EMS = 87.

3. The F-test indicated no statistical difference at the alpha = 0.1 probability level; therefore an LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 4, 2000.

Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Cecil sandy clay loam.

Soil Test: P = High, K = High, and pH = 6.8.

Fertilization: Preplant: 49 lb N, 98 lb P₂O₅, and 147 lb K₂O/acre.

Topdress: 50 lb N/acre after 1st, 2nd, and 3rd harvests.

Management: Moldboard plowed and rototilled.

Previous Crop: Canola.

Test conducted by P. A. Rose.

**Table 8. Marianna, Florida:
Rye Forage Performance, 2000-2001**

Brand-Variety	Dry Matter Yield					Season Totals 2001
	Harvest Date					
	2-02-01	2-27-01	3-27-01	Total First 3 Harv.	4-24-01	
	-----lb/acre-----					
SPIRye	50	1339	3063	4451	1202	5653
Early Grazer	298	1881	2221	4399	1633	6032
FLPL97P20	806	1723	1762	4292	1629	5921
FLNF94 Sel.	46	1669	2525	4241	1448	5689
FLOklon Sel.	167	1551	2515	4232	1183	5415
Wintergrazer 70	79	1220	2914	4213	1026	5238
UGA 96RS1	475	1658	2038	4171	1076	5246
FLGR97P4	354	1749	1925	4028	979	5007
GI-87	171	1297	2529	3997	1846	5843
FLBates Sel.	197	2147	1616	3960	1698	5658
Bates	62	1388	2454	3903	1586	5489
Kelly Grazer II	112	1265	2486	3863	1364	5226
Wrens Abruzzi	248	1778	1761	3787	1091	4878
Wrens 96	247	1645	1879	3770	1310	5080
Oklon	68	864	2787	3719	1100	4818
Maton	39	1321	2328	3687	1744	5432
Elbon	84	1071	2278	3433	1519	4952
GA96P16M	256	1843	1326	3426	1391	4816
Hancock	207	864	1872	2943	2546	5489
Average	244	1538	2102	3884 ¹	1415	5299 ²
LSD at 10% Level	186	356	400	450	553	696
Std. Err. of Entry Mean	79	151	170	191	234	296

1. C.V. = 9.8%, and df for EMS = 69.

2. C.V. = 11.2%, and df for EMS = 69.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 31, 2000.

Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Dothan loamy fine sand.

Soil Test: P = High, K = High, and pH = 6.3.

Fertilization: Preplant: 40 lb N, 0 lb P₂O₅, and 0 lb K₂O/acre.

Topdress: 50 lb N/acre after 1st, 2nd, and 3rd harvests.

Management: Moldboard plowed and rototilled.

Previous Crop: Summer fallow.

Test conducted by A. R. Blount and J. Jones.

Table 9. Tifton, Georgia: Rye Forage Performance, 1999-2000

	Dry Matter Yield								
	Harvest Date								
				Total First 3 Harv.	2-Yr Avg First 3 Harv.			Season Totals	
Brand-Variety	1-03-00	2-01-00	2-22-00			3-10-00	4-03-00	2000	2-Yr Avg
	----- lb/acre -----								
Wintermore	1757	1220	1423	4400	3623	1583	1423	7405	7398
AgrioBioTech XR9902	1793	1198	1351	4342	.	1648	1387	7376	.
AgrioBioTech XR9903	1713	1220	1394	4327	.	1525	1365	7217	.
Bates	1576	1256	1474	4306	3605	1488	1300	7094	7162
FLBates Sel.	1633	1220	1452	4305	3714	1380	1242	6927	7202
Pennington SPIRye	1677	1191	1423	4291	.	1626	1303	7220	.
Wheeler	1793	1184	1271	4248	3478	1452	1380	7080	6996
FLFayetteville Sel.	1605	1191	1445	4240	3565	1358	1321	6919	6992
AgrioBioTech XR9909	1692	1177	1365	4233	.	1474	1307	7014	.
AgrioBioTech XR9907	1677	1155	1401	4233	.	1488	1234	6956	.
FLPL97P20	1677	1198	1351	4225	3568	1329	1104	6658	6777
AgrioBioTech XR96-1	1663	1191	1343	4197	.	1626	1329	7152	.
Early Grazer	1619	1169	1358	4146	3485	1438	1311	6895	6936
Hancock	1597	1271	1278	4146	.	1496	1706	7348	.
Wrens Abruzzi	1648	1148	1351	4146	3558	1213	1139	6497	6563
FLGR97P4	1604	1125	1394	4124	.	1307	1067	6498	.
GA96RS6	1800	1023	1300	4123	.	1554	1510	7187	.
Oklon	1517	1198	1387	4102	3551	1710	1532	7344	7430
Wintergrazer 70	1467	1198	1416	4081	3442	1532	1409	7021	7217
AgrioBioTech XR95-3	1426	1235	1394	4055	.	1532	1351	6937	.
GI-87	1561	1140	1343	4044	3358	1691	1459	7195	7286
Wrens 96	1496	1118	1416	4030	3496	1365	1162	6556	6734
Elbon	1488	1191	1314	3993	3300	1823	1525	7340	7246
Kelly Grazer II	1336	1271	1336	3943	3387	1771	1619	7333	7482
GA96P16M	1532	1053	1249	3833	.	1256	1271	6360	.
Maton	1394	1133	1271	3797	3253	1771	1575	7144	7584
AgrioBioTech XR9916	1372	1089	1227	3689	.	1546	1575	6810	.
AgrioBioTech XB97-1	1307	1140	1205	3652	.	1706	1648	7006	.
Amilo	1271	1060	1145	3475	.	1517	1699	6691	.
AgrioBioTech XB9912	1235	922	1016	3172	.	1750	1851	6773	.
Average	1570	1143	1322	4035 ¹	3466	1489	1377	6902 ²	6945
LSD at 10% Level	249	90	67	304	N.S. ³	78	186	361	266
Std. Err. of Entry Mean	106	38	29	130	95	33	79	154	115

1. C.V. = 6.4%, and df for EMS = 105. 2. C.V. = 4.5%, and df for EMS = 105.

2. The F-test indicated no statistical difference at the alpha = 0.1 probability level; therefore an LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 26, 1999. Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Tifton loamy sand. Soil Test: P = High, K = Medium, and pH = 5.8.

Fertilization: 93 lb N, 50 lb P₂O₅, and 75 lb K₂O/acre. 40 lb N/acre after 1st, 2nd, 3rd, and 4th harvests.

Management: Moldboard plowed and rototilled. Previous Crop: Summer annual forage. Test conducted by A. E. Coy and M. D. Pippin.

Table 10. Plains, Georgia: Rye Forage Performance, 1999-2000

	Dry Matter Yield							
	Harvest Date							
				Total First3 Harv.	2-Yr Avg First 3 Harv.		Season Totals	
Brand-Variety	1-18-00	2-25-00	3-24-00			5-04-00	2000	2-Yr Avg
	----- lb/acre -----							
Bates	2004	1379	2530	5914	4093	864	6778	6053
Pennington SPIRye	1525	1401	2752	5678	.	625	6302	.
AgrioBioTech XR96-1	1745	1256	2646	5647	.	959	6606	.
Maton	1401	1038	3139	5579	3650	879	6457	6216
GI-87	1503	1075	2995	5572	3766	646	6218	6008
Elbon	1416	951	3204	5571	3631	668	6239	5646
Wintermore	1663	1351	2556	5569	3888	799	6368	5957
AgrioBioTech XR9909	1808	1358	2371	5536	.	951	6487	.
Wintergrazer 70	1786	1336	2377	5499	3813	878	6377	5934
AgrioBioTech XR9903	1793	1329	2341	5463	.	813	6276	.
AgrioBioTech XB97-1	1387	1111	2957	5454	.	1094	6549	.
AgrioBioTech XR9902	1445	1213	2734	5391	.	719	6110	.
Oklon	1626	1097	2655	5377	3778	770	6147	5683
AgrioBioTech XR9907	1641	1351	2333	5324	.	748	6072	.
AgrioBioTech XR95-3	1627	1227	2336	5190	.	871	6061	.
Wrens 96	1496	1430	2129	5055	3773	886	5941	5584
FLGR97P4	1808	1365	1782	4954	.	835	5789	.
AgrioBioTech XR9916	1176	1191	2559	4926	.	1140	6065	.
Early Grazer	1713	1343	1860	4916	3500	741	5657	5297
FLBates Sel.	1634	1452	1826	4911	3599	1024	5935	5603
FLFayetteville Sel.	1438	1488	1961	4887	3572	893	5780	5387
Wrens Abruzzi	1772	1307	1752	4831	3646	900	5731	5415
GA96P16M	1837	980	1921	4738	.	1060	5798	.
FLPL97P20	1568	1278	1861	4707	3548	791	5498	5383
Wheeler	1779	951	1966	4695	3448	2229	6924	6072
GA96RS6	1772	733	1618	4123	.	1198	5320	.
AgrioBioTech XB9912	530	777	2042	3349	.	2149	5498	.
Average	1621	1192	2269	5082 ¹	3658	946	6028 ²	5581
LSD at 10% Level	247	193	270	464	N.S. ³	239	555	305
Std. Err. of Entry Mean	105	82	115	198	103	102	236	130

1. C.V. = 7.9%, and df for EMS = 96. 2. C.V. = 7.8%, and df for EMS = 96.

3. The F-test indicated no statistical difference at the alpha = 0.1 probability level; therefore an LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 27, 1999. Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Greenville sandy clay loam. Soil Test: P = Medium, K = High, and pH = 5.6.

Fertilization: 62 lb N, 72 lb P₂O₅, and 36 lb K₂O/acre. 50 lb N/acre after 1st, 2nd, and 3rd harvests.

Management: Subsoiled and rototilled. Previous Crop: Small grain - Grain.

Test conducted by A. E. Coy, M. D. Pippin, and R. R. Pines.

Table 11. Quincy, Florida: Rye Forage Performance, 1999-2000

Table 11. Quincy, Florida. Ryegrass Forage							
	Dry Matter Yield						
	Harvest Date						
				Total First			Season Total
				3 Harv.			2000
Brand-Variety	12-08-99	1-11-00	2-20-00		3-21-00	5-08-00	
	----- lb/acre -----						
Wintermore	1538	1780	2517	5835	4910	335	11079
Oklon	1599	1712	2468	5779	5051	462	11292
Wintergrazer 70	1390	1813	2520	5723	2993	623	9339
Maton	1253	1780	2603	5636	5493	439	11568
AgrioBioTech XR9916	1354	1856	2386	5597	5035	439	11070
Early Grazer	1229	2068	2274	5570	4259	381	10210
FLBates Sel.	1272	1867	2425	5565	3519	676	9759
AgrioBioTech XR95-3	1477	1871	2208	5556	4735	300	10590
Bates	1325	1916	2310	5551	4432	416	10398
Hancock	1269	1724	2450	5443	3463	1166	10071
Pennington SPIRye	1361	1562	2499	5422	4545	392	10359
AgrioBioTech XR9909	1564	1567	2271	5402	4391	346	10139
Wrens Abruzzi	1420	2011	1962	5393	2626	168	8187
AgrioBioTech XR9903	1372	1867	2152	5390	4627	519	10536
FLPL97P20	1422	1981	1881	5283	3295	127	8705
AgrioBioTech XR9907	1655	1724	1900	5279	4480	288	10047
AgrioBioTech XR9902	1465	1683	2108	5255	4474	497	10226
FLFayetteville Sel.	1188	1737	2263	5188	3051	404	8643
Elbon	1345	1713	2066	5124	5342	323	10788
Kelly Grazer II	1111	1707	2290	5108	4890	623	10621
Amilo	1108	1644	2313	5065	3305	1939	10309
AgrioBioTech XR96-1	1375	1697	1978	5050	4734	289	10073
GA96P16M	1416	1738	1893	5046	3818	311	9176
GI-87	1215	1838	1920	4973	5026	335	10333
Wheeler	1570	1517	1878	4966	3240	1675	9881
FLGR97P4	1262	1585	2093	4939	2700	632	8271
Wrens 96	1242	1555	2108	4905	3506	150	8561
AgrioBioTech XB97-1	1071	1767	2031	4869	5164	623	10656
AgrioBioTech XB9912	1165	1383	2027	4575	5501	646	10722
Average	1366	1746	2152	5264 ¹	4095	496	9855 ²
LSD at 10% Level	254	N.S. ³	381	506	667	334	923
Std. Err. of Entry Mean	108	146	162	216	284	142	393

1. C.V. = 8.2%, and df for EMS = 102. 2. C.V. = 8.0%, and df for EMS = 102.

3. The F-test indicated no statistical difference at the alpha = 0.1 probability level; thus an LSD value was not calculated.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = .10).

Planted: October 22, 1999. Seeding Rate: 36 seed/foot in 7" rows.

Soil Type: Dothan loamy fine sand. Soil Test: P = High, K = High, and pH = 6.3.

Fertilization: 40 lb N, 0 lb P₂O₅, and 0 lb K₂O/acre. 50 lb N/acre after 1st, 2nd, 3rd, and 4th harvests.

Management: Moldboard plowed and rototilled. Previous Crop: Summer fallow.

Test conducted by A. R. Blount and A. W. Watson.

Table 12. Tifton, Georgia: Rye Forage Performance, 1998-99

Brand-Variety	Dry Matter Yield lb/acre									Season Totals	
	Harvest Date									1999	2-Yr Avg
	12-2-98	12-18-98	1-26-99	Total First 3 Harv.	2-Yr Avg First 3 Harv.	2-15-99	3-10-99	3-30-99	4-19-99		
FLBates Sel.	1016	617	1488	3122	.	1031	1343	1539	443	7478	.
FLNF94 Sel.	1016	617	1488	3122	.	1082	1321	1561	436	7522	.
Oklon	973	654	1372	2999	3070	1024	1235	1648	610	7515	6781
Wrens Abruzzi	907	654	1409	2969	3089	842	929	1445	443	6629	6083
UGA 97RS2	1009	538	1423	2969	3214	936	1104	1401	479	6890	6301
Wrens 96	1045	610	1307	2962	3228	915	1111	1467	458	6912	6409
UGA 96RS4	799	755	1380	2933	3226	828	973	1626	552	6911	6442
FLPL97P20	1016	632	1264	2912	.	929	1016	1496	545	6897	.
Seed Resource R-95-1	842	625	1445	2911	.	1104	1169	1742	588	7515	.
Bates	886	596	1423	2904	3090	973	1191	1590	574	7231	6539
Seed Resource R-98-1	1002	567	1329	2897	.	1024	1256	1670	617	7464	.
FLFayetteville Sel.	973	617	1300	2890	.	973	1176	1539	487	7064	.
FLOklon Sel	951	639	1285	2875	.	980	1133	1467	480	6934	.
UGA 96RS5	828	581	1459	2868	3080	951	1104	1496	538	6956	6339
Wintermore	849	625	1372	2846	2910	1038	1205	1677	625	7391	6568
Kelly Grazer II	973	603	1256	2832	2949	1111	1242	1808	639	7631	6714
UGA 96RS3	820	646	1365	2832	3246	871	1103	1612	567	6984	6583
SS Early Grazer	907	588	1329	2824	.	987	1155	1517	494	6977	.
Wintergrazer 70	849	610	1343	2803	2821	1009	1249	1706	646	7413	6643
UGA 96RS1	784	603	1365	2752	3047	973	1111	1496	559	6890	6402
So. States Wheeler	958	487	1264	2709	.	1031	1133	1249	791	6912	.
Maton	936	588	1184	2708	2699	1235	1300	1946	835	8023	7052
GI-87	849	552	1271	2672	2877	995	1256	1801	654	7377	6620
Seed Resource 397-1	770	552	1307	2629	.	1053	1213	1575	661	7130	.
Elbon	806	581	1220	2607	2803	973	1148	1706	719	7151	6482
Johnston Spring Fiest	871	487	1184	2542	.	1075	1169	1677	784	7246	.
UGA 96RS2	675	567	1278	2520	2998	936	1082	1604	654	6796	6518
Southern States Pastar	341	458	1343	2142	.	907	1089	1140	806	6084	.
Average	886	600	1348	2833 ¹	3022	915	1072	1542	587	6949 ²	6530
LSD at 10% Level	145	118	111	239	224	153	162	114	104	411	353
Std. Err. of Entry Mean	62	50	47	102	95	65	69	48	44	176	150

1. C.V. = 7.2%, and df for EMS = 120. 2. C.V. = 5.0%, and df for EMS = 120

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 26, 1998. Seeding Rate: 2.5 bu/acre in 7" rows.

Soil Type: Tifton loamy sand. Soil Test: P = High, K = Medium, and pH = 6.1.

Fertilization: Preplant: 40 lb N, 40 lb P₂O₅, and 40 lb K₂O/acre. Topdress: 50 lb N/acre after 1st, 2nd, 3rd, 4th, 5th, and 6th harvests.

Management: Moldboard plowed and bedded with rototiller. Previous Crop: Grain sorghum. Test conducted by A. E. Coy and M. D. Pippin.

Table 13. Plains, Georgia: Rye Forage Performance, 1998-99

Brand-Variety	Dry Matter Yield lb/acre								Season Totals	
	Harvest Date									
	12-10-98	1-21-99	2-8-99	Total First 3 Harv.	2-Yr Avg First 3 Harv.	3-4-99	3-25-99	4-22-99	1999	2-Yr Avg
Wrens 96	1067	567	857	2490	2864	1074	1155	508	5227	4840
Wrens Abruzzi	1067	552	842	2461	2774	995	1074	569	5099	4635
UGA 97RS2	1089	530	835	2454	2784	1009	1096	575	5134	4734
FLPL97P20	1060	530	799	2389	.	1082	1249	549	5269	.
Seed Resource R-98-1	1045	494	791	2331	.	1133	1365	762	5591	.
FLBates Sel.	1104	509	675	2287	.	1155	1227	603	5272	.
Bates	1038	487	748	2273	2618	1089	1300	668	5329	4910
UGA 96RS3	980	450	842	2272	2719	1162	1300	674	5407	5055
FLNF94 Sel.	1089	451	719	2258	.	1191	1235	653	5337	.
FLFayetteville Sel.	1002	465	791	2258	.	1067	1184	487	4995	.
UGA 96RS4	965	465	820	2251	2734	1075	1140	509	4974	4788
FLOklon Sel.	1016	407	799	2221	.	1140	1104	538	5002	.
UGA 96RS1	980	451	784	2214	2823	1096	1220	600	5130	4992
Wintermore	958	515	733	2207	2592	1169	1329	842	5546	5325
So. States Wheeler	1089	363	748	2200	.	1045	965	1009	5219	.
Oklon	1045	407	726	2178	2422	1118	1234	690	5220	5050
UGA 96RS5	929	436	799	2164	2672	1155	1184	625	5127	4970
UGA 96RS2	908	443	806	2157	2661	1162	1358	755	5431	5131
Wintergrazer 70	973	370	784	2127	2352	1264	1336	765	5491	5231
SS Early Grazer	929	458	697	2084	.	1053	1206	596	4938	.
Seed Resource 397-1	958	356	741	2054	.	1133	1322	773	5281	.
Johnston Spring Fiest	951	327	733	2011	.	1235	1467	908	5620	.
Seed Resource R-95-1	951	392	639	1982	.	1082	1445	700	5208	.
GI-87	951	312	697	1960	2407	1278	1612	948	5797	5391
Maton	922	196	603	1720	1996	1278	1677	1300	5975	5502
Elbon	907	268	516	1691	2091	973	1554	835	5052	4967
Southern States Pastar	501	312	748	1561	.	1075	1009	893	4537	.
Average	998	461	751	2210 ¹	2567	1040	1194	662	5106 ²	5035
LSD at 10% Level	97	84	84	184	178	98	118	134	272	215
Std. Err. of Entry Mean	42	36	36	78	76	42	50	57	116	92

1. C.V. = 7.1%, and df for EMS = 117. 2. C.V. = 4.5%, and df for EMS = 117.

Bolding indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: October 22, 1998. Seeding Rate: 2.5 bu/acre in 7" rows.

Soil Type: Greenville sandy clay loam. Soil Test: P = Medium, K = High, and pH = 6.1.

Fertilization: Preplant: 59 lb N, 54 lb P₂O₅, and 27 lb K₂O/acre. Topdress: 50 lb N/acre after 1st, 2nd, 3rd, 4th, and 5th harvests.

Management: Subsoiled twice, prebedded and bedded with rototiller. Previous Crop: Peanut. Test conducted by A. E. Coy, M. D. Pippin, and R. R. Pines.

Table 14. Total Season Forage Production - Percent of the Test Average

Entry	Tif. 2002	Pla. 2002	Gri. 2002	Mar. 2002	Tif. 2001	Pla. 2001	Gri. 2001	Mar. 2001	Tif. 2000	Pla. 2000	Qui. 2000	Tif. 1999	Pla. 1999	13 Test Avg.	10 Test Avg.	11 Test Avg.	8 Test Avg.
Bates	106	105	107	108	101	107	107	104	102	111	106	104	104	105.5	105.3	105.8	105.6
Oklon	100	107	105	105	109	105	111	91	106	102	115	108	102	105.1	104.3	105.1	104.1
Elbon	111	115	131	123	116	100	112	93	106	104	109	103	99	109.4	110.3	110.9	112.3
Wrens Abruzzi	107	86	82	87	90	99	95	92	94	95	83	95	100	93.5	93.3	91.8	92.3
Wrens 96	101	90	81	91	89	100	99	96	94	99	87	99	102	94.5	94.8	93.4	93.4
Wintergrazer 70	97	115	106	118	101	99	90	99	101	106	95	107	108	103.2	104	102.5	103.1
FLGR97P4	96	85	85	88	96	100	95	94	94	96	84					92.1	92.3
FLBates Sel.	93	85	83	89	101	101	89	107	100	98	99	108	103	96.6	95.9	95	93.5
FLPL97P20	91	85	81	104	88	100	90	112	96	91	88	99	103	94.9	95.3	93.2	93.9
FLOklon Sel.	93	88	80	87	82	101	103	102				100	98		93.4		92
FLNF94 Sel.	96	86	93	98	93	107	103	107				108	105		99.6		97.9
Avg. Forage Yield	7285	5616	6977	5979	6488	6280	6014	5299	6945	6028	9855	6949	5106				

10 Test avg. = all test except those in 2000.

11 Test avg. = all test except those in 1999.

8 Test avg. = includes 2002 and 2001 data.

Table 15. Early Season Forage Production - Percent of the Test Average

Entry	Tif. 2002	Pla. 2002	Gri. 2002	Mar. 2002	Tif. 2001	Pla. 2001	Gri. 2001	Mar. 2001	Tif. 2000	Pla. 2000	Qui. 2000	Tif. 1999	Pla. 1999	13 Test Avg.	10 Test Avg.	11 Test Avg.	8 Test Avg.
Bates	103	103	105	107	107	108	97	100	107	116	105	103	103	104.9	103.6	105.2	103.8
Oklon	102	102	109	97	102	104	105	96	102	106	110	106	99	103.1	102.2	103.2	102.1
Elbon	98	95	120	99	100	100	97	88	99	110	97	92	77	97.8	96.6	100.3	99.6
Wrens Abruzzi	111	101	91	105	104	101	119	98	103	95	102	105	112	103.6	104.7	102.7	103.8
Wrens 96	100	93	93	105	104	107	131	97	100	99	93	105	113	103.1	104.8	102	103.8
Wintergrazer 70	98	102	91	104	96	92	75	108	101	108	109	99	96	98.4	96.1	98.5	95.8
FLGR97P4	112	104	94	99	107	104	113	104	102	97	94					102.7	104.6
FLBates Sel.	103	98	95	98	116	103	101	102	107	97	106	112	103	103.2	103.1	102.4	102
FLPL97P20	102	100	94	110	101	109	119	111	105	93	100	103	108	104.2	105.7	104	105.8
FLOklon Sel.	97	98	90	103	96	102	115	109				101	100		101.1		101.3
FLNF94 Sel.	94	97	109	116	97	107	114	109				112	102		105.7		105.4
Avg. Forage Yield	3019	3132	5189	3633	3750	4121	2835	3884	4035	5082	5264	2833	2210				

10 Test avg. = all test except those in 2000.

11 Test avg. = all test except those in 1999.

8 Test avg. = includes 2002 and 2001 data.

200500048

Exhibit E**Statement of the Basis of the Owner's Ownership**

The variety for which plant protection is hereby sought is owned jointly by the Florida Agricultural Experiment Station (FAES) and the University of Georgia Research Foundation, Inc. (UGARF).

Ronald D. Barnett, Paul Pfahler, and Ann Blount, as employees of the FAES have assigned their rights in "AGS 104" to FAES.

Ownership of UGARF in the variety for which protection is sought is based on the Patent Policy approved by the Board of Regents of the University System of Georgia on June 8, 1982, in which the Board of Regents assigned to the University of Georgia Research Foundation, Inc. all rights in intellectual property developed or created by employees at the University of Georgia, one of the universities of the University System of Georgia. Rights in novel plant varieties developed at the University of Georgia, including "AGS 104" are co-owned by said patent policy. As employees of the University of Georgia, Jerry Johnson, Barry Cunfer and David Buntin have assigned their rights to "AGS 104" to the University of Georgia Research Foundation, Inc.

Florida Foundation Seed Producers, Inc. (FFSP) has been designated and authorized to produce breeder and foundation seed of "AGS 104" for commercial distribution. Only companies with approved contracts with FFSP are authorized to produce and sell seed of "AGS 104".